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EXAMINER

JACOBSON, MICHELE LYNN

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/594,057	<b>Applicant(s)</b> KAWAI ET AL.	
	<b>Examiner</b> MICHELE JACOBSON	<b>Art Unit</b> 1782	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-8,10,13 and 14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4-8, 10, 13 and 14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/20/10, 2/19/10</u>  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Examiner Notes***

1. Any objections and/or rejections made in the previous action, and not repeated below, are hereby withdrawn.

### ***Double Patenting***

2. Claims 1, 2, 4-8, 10, 13, 14 and 16 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4 of copending Application No. 11/912978. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the instantly pending application encompass the invention claimed in application 11/912978.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

3. Claims 1, 2 and 4-6 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-9 of copending Application No. 10/593237. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the instantly pending

Art Unit: 1782

application are broader in scope and encompass the invention claimed in application 10/593237.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Claim Rejections - 35 USC § 112***

4. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 1 recites the limitation of an “ $\alpha$ -olefin copolymer containing a cold xylene-soluble fraction in a proportion of not more than 3% by weight”. Applicant’s specification only ever refers to the cold xylene-soluble fraction in a proportion of not more than 3% by **mass**. Therefore, there is no support for the newly added limitation in the specification as filed.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 1782

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 2, 4, 5, 7, 8, 10, 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kohyama et al. U.S. Patent No. 4,726,999 (hereafter referred to as Kohyama).

7. Kohyama teaches a laminated structure having excellent heat sealability at low temperatures and heat seal strength, a broad range of heat sealable temperatures, and also superior scratch resistance and antiblocking property. The laminated structure is disclosed to be very useful in the form of a laminate fiber or sheet, a laminated package or container, etc. in the field of packaging various products or articles including foodstuffs, apparels, daily goods and sundries (Col. 1, lines 21-27) The laminated structure disclosed comprises a substrate layer of a crystalline propylene resin and, positioned in direct contact with at least one surface thereof, a heat-sealable layer of a crystalline random propylene copolymer composition. (Col. 3, lines 60-64)

8. The laminated structure disclosed is characterized in that the crystalline random propylene copolymer composition is a mixture of (I) and (II) indicated below in a (I)/(II) weight ratio of from 5/95 to 90/10.

I. A crystalline random propylene copolymer of a major amount of propylene with a minor amount of another alpha-olefin, and

II. a random copolymer consisting essentially of more than 60 to 99 mole % of 1-butene and less than 40 to 1 mole % of propylene.

Art Unit: 1782

12. Advantageously, the copolymer (II) has a Young's modulus (J), measured by the method of JIS K-7113, of 1000 to 6000 kg/cm<sup>2</sup>, preferably 1100 to 5000 kg/cm<sup>2</sup>. (Col. 8, lines 40-42)

13. The crystalline propylene resin constituting the substrate layer of the laminated structure may comprise crystalline random copolymers of a major proportion of propylene with up to about 10 mol%  $\alpha$ -olefins other than propylene, for example C<sub>2</sub>-C<sub>10</sub>  $\alpha$ -olefins. (Col. 5, lines 22-28) The crystalline propylene resin comprising the substrate layer is disclosed to have a crystallinity as measured by X-ray diffractometry of 55 to 70%. (Col. 5, lines 38-43)

14. The substrate layer of the crystalline propylene resin constituting the laminated structure of this invention may be non-stretched or in a monoaxially or biaxially stretched state. The heat-sealable layer of the crystalline random propylene copolymer composition may likewise be non-stretched or in a monoaxially or biaxially stretched state. Hence, the substrate layers in the above states and the heat-sealable layers in the above states may be used in any desired combinations. (Col. 4, lines 31-39)

15. In the laminated structure of this invention, the thickness of the substrate layer can be properly selected and is, for example, from 5 to 200  $\mu$ m. The thickness of the heat-sealable layer can also be properly selected, and is, for example, about 0.1 to about 50  $\mu$ m, preferably about 0.5 to about 30  $\mu$ m. These thicknesses may be varied properly depending upon the shape, type, etc. of the laminated structure. For example, in the case of a laminated film or sheet, the substrate layer may have a thickness of about 5 to about 200  $\mu$ m, preferably about 10 to about 70  $\mu$ m, and the heat-sealable

Art Unit: 1782

layer may have a thickness of about 0.1 to about 50  $\mu\text{m}$ , preferably about 0.5 to about 30  $\mu\text{m}$ . (Col. 4, lines 40-52)

16. The heat seal strength when the film is sealed to itself at 130° C is disclosed to be 16.7 N/15 mm in Table 3, example 1.

17. Kohyama additionally discloses crystalline propylene resin films or sheets have found extensive use in the field of packaging, particularly packaging of foodstuffs, because of their superiority in mechanical properties such as tensile strength, rigidity, surface hardness and impact strength, optical properties such as gloss and transparency, and food hygiene such as the freedom from toxicity and odor. They, however, have the defect that temperatures at which a single layer of such a crystalline propylene resin film can be heat-sealed are high and a proper range of these heat-sealing temperatures is narrow. (Col. 1, lines 55-65)

18. Kohyama is silent regarding disposing an additional heat seal layer on the substrate layer to sandwich the substrate layer between heat seal layers.

19. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have disposed an additional heat seal layer on the crystalline propylene substrate layer opposite the heat seal layer disclosed by Kohyama in order to provide an additional heat sealing surface to the film so that lap seals could be formed with the film. This obvious duplication of the heat seal layer disclosed by Kohyama would have solved the defect of crystalline propylene films that temperatures at which a single layer of such a crystalline propylene resin film can be heat-sealed are high and a

Art Unit: 1782

proper range of these heat-sealing temperatures is narrow disclosed by Kohyama by providing a suitable heat sealing surface.

20. Regarding claims 1, 7 and 8: The heat seal layer disclosed by Kohyama reads on the heat seal layer claimed by applicant and has a heat sealing strength which falls within the range claimed by applicant. The heat seal layer of Kohyama also reads on the substrate layer claimed by applicant since component (I) of the heat seal layer is disclosed to be a crystalline polypropylene resin. The substrate layer of Kohyama reads on the intermediate layer claimed by applicant and is recited to have a crystallinity as high as 70%. Although Kohyama is silent regarding the cold xylene-soluble fraction of the crystalline  $\alpha$ -olefin copolymer substrate layer, since the materials disclosed by Kohyama is the same as disclosed by applicant, and the substrate layer of Kohyama is specifically disclosed to be highly crystalline it naturally flows that the  $\alpha$ -olefin copolymer substrate layer of Kohyama would have a cold xylene-soluble fraction in a proportion of not more than 3% by weight. As such, the obvious modification of Kohyama to provide an additional heat sealable surface to the film disclosed would have produced the same invention as claimed in claim 1, 7 and 8.

21. Regarding claim 2: The film thicknesses disclosed by Kohyama overlap or encompass the range thicknesses for the layers of the film claimed in claim 2. In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990)



Art Unit: 1782

22. Regarding claims 4, 5, 10, 14 and 16: It would have been obvious to one having ordinary skill in the art at the time the invention was made to have mixed in some of the crystalline polypropylene resin comprising the heat seal layer with the resin comprising the substrate layer since the examiner takes official notice that it was universally known in the polymer arts at the time the invention was made that providing a mixture of the resins comprising two polymer layers to be bonded between the layers increases the adhesion of the layers. This obvious utilization of a technique well known in the art to improve the adhesion between two polymer layers would have produced the invention as claimed in claims 5 and 10. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have optimized the amount of heat seal resin added to the substrate layer in order to maintain the strength of the crystalline polypropylene copolymer which still allowing for optimal adhesion. The obvious optimization of a result effective variable would have produced the same invention as claimed in claims 4, 14 and 16.

23. Claims 6 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kohyama et al. U.S. Patent No. 4,726,999 (hereafter referred to as Kohyama) and Food Packaging Technology, ed. Coles et al., CRC Publishing, 2003, pg. 318 (hereafter referred to as Coles).

24. Kohyama teaches what has been recited above but is silent regarding imparting antifog properties to the laminate disclosed.

Art Unit: 1782

25. Coles teaches Condensation (fogging) of water vapour on the inner surface of food packs can occur when the temperature of the pack environment is reduced, resulting in a temperature differential between the pack contents and the packaging material. Fogging of the inner surface of lidding film is a result of light scattering by the small droplets of condensed moisture that leads to poor product visibility and an aesthetically displeasing appearance of the pack. This can be overcome by applying antifogging agents to the plastic heat sealing layer, either as an internal additive or as an external coating. These chemicals decrease the surface energy of the packaging film which enables moisture to spread as a thin film across the under surface of the pack rather than collecting as visible droplets. Antifogging agents include fatty acid esters. Most lidding materials are available with antifog properties, and commonly treated plastics include LDPE, LLDPE, EVA and PET. (Pg. 318)

26. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have applied an antifogging agent such as disclosed by Coles to the heat seal layer of Kohyama in order to prevent fogging and its deleterious effects. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have optimized the amount of such an additive in order to obtain the most beneficial reduction in the amount of fogging by sufficiently decreasing the surface energy of the film. Such an optimization of the amount of additive in the modified invention of Kohyama would have produced a film with the same characteristics as claimed in claims 6 and 13.

***Response to Arguments***

9. Applicant's arguments with respect to claims 1, 2, 4-8, 10, 13, 14 and 16 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHELE JACOBSON whose telephone number is (571)272-8905. The examiner can normally be reached on Monday-Thursday 8:30 AM-7 PM EST.

Art Unit: 1782

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on (571)272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michele L. Jacobson  
Examiner /M. J./  
Art Unit 1782

/Rena L. Dye/  
Supervisory Patent Examiner, Art Unit 1782